

# Current Physical Training Philosophy

The Army's current physical training (PT) program emerged out of doctrine developed and written in the early 1980s (FM 21-20, 1985 and 1992). This program was developed utilizing a civilian model based on American College of Sports Medicine guidelines. This doctrine guides commanders in the development of individual and unit PT programs.

The premise was that leaders would synthesize doctrinal information and through deductive reasoning would apply principles of physical training to prepare soldiers for the accomplishment of mission and tasks specified in the unit's mission essential tasks list.

In theory, this was a sound approach, based on subject matter expertise at the time. In application, decentralization of PT programs led to non-standardization

# Accessions Commander's Direction

Implement a systematic approach to IET physical training in order to enable all soldiers to meet the standard on the current APFT while controlling injuries.

# TRADOC Commander Guidance

“Key to the success of the Objective Force Soldier Concept is the requirement for leaders to conduct demanding, realistic training that develops tough, disciplined, motivated and physically ready soldiers.”

# Scheme of Maneuver

The PT transformation process should employ a phased strategy that runs along two axis:



Current



Future

\* Each phase includes branches and sequels for IET and the Army

# Current - Army

- Standardize PT in IMT.
- Demonstrate Injury Control.
- Leverage CHPPM Partnership.
- Establish Human Dimensions Program.

# Current Phase

XX

NON-STANDARDIZED  
TRAINING

FM 21-20  
IET  
SUPPLEMENT

AXIS  
IET PT  
STANDARDIZATION

INJURY

XX

PFS

APG

VF

CHPPM

VF 2

VF 3

OBJ

REDUCED  
ATTRITION

INJURY  
CONTROL

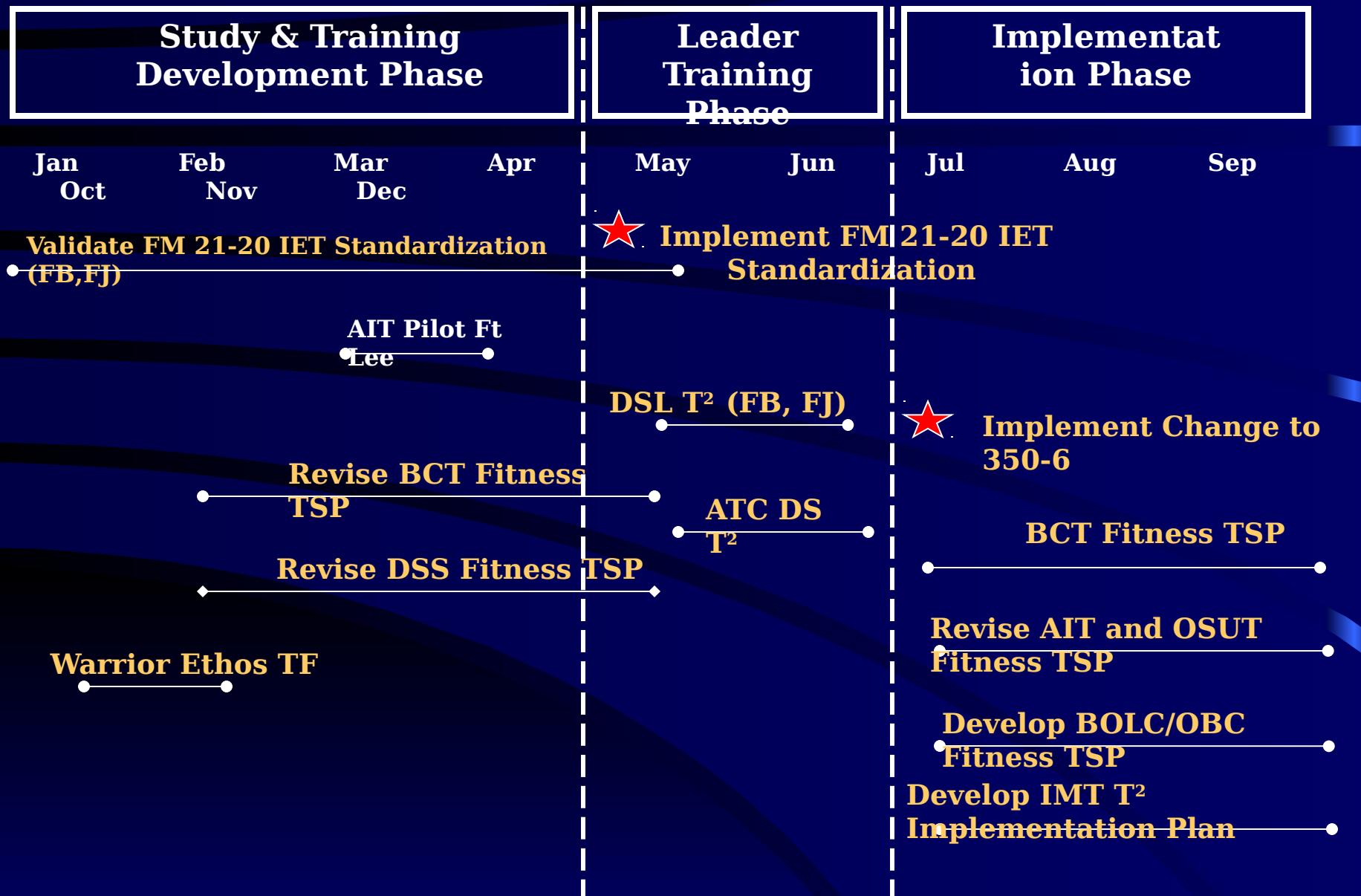
# IET Physical Training Standardization

According to guidance issued by Commander, USAACC, standardize PT at all ATCs.

- Validation of the standardized PT program will begin with DS train-the-trainer, 9-week BCT pilot and 9-week BCT study at Ft Jackson.
- Key to the success of this initiative is the development of DSL and DS TSPs.

***“Critical to the success of PT standardization across the Army is the follow-on development of TSPs for Institutional Training for NCOES and OES.”***

# IET PT Standardization Timeline



# PT Standardization Ft Jackson

- Standardized PT program.
- No initial assessment or FTU assignment.
- 1-28 IN designated control group.
- 2-28 IN designated experimental group.
- Reduced running volume.
- Emphasis on speed work (1 session per week).
- Program alternates CB and MSE days.

# Future -

## Army

- Integrate PT activities and military skills to enhance combat and duty performance.
- Ensure foundational fitness and fundamental skills are achieved while preparing soldiers for long-term career success.
- Leverage partnerships with CHPPM and USARIEM.
- Research and develop concept for new assessment.

# CSA and SMA Questions

- How does routine PT correspond to combat?
- Do we need to change how we do routine PT or PT tests?
- Is the sit-up a valid assessment?

# Army Physical Training Proponency

- USAPFS is the “specified proponent” identified in AR 5-22, Table 2.
- The specified proponent is responsible for a designated area that does not fall within the purview of a branch proponent.
- As the specified proponent, USAPFS develops concepts, doctrine, tactics, techniques, procedures, organization designs, materiel requirements, training programs, training support requirements , education requirements as they relate to physical fitness.

# Army Physical Training Program Implementation

- G3 established policy governing the Army Physical Fitness Program.
- TRADOC maintains a school to develop and field the Army's physical fitness doctrine, training, education programs and performance standards.
- TRADOC acts as the proponent for coordinating, publishing and issuing all physical fitness training doctrine and aids to support the Army Physical Fitness Program.

# TRADOC Transformation

TRADOC Transformation Memorandum No. 2, 27 March 2003 established roles and responsibilities for Deputy Commanding General, Initial Entry Training (DCG-IET)/Commanding General U.S. Army Accessions (CG,USAAC) Command.

- The DCG-IET/CG,USAAC, serves as the functional proponent for IMT.
- The DCG-IET/CG,USAAC, provides command and control for U.S. Army Physical Fitness School.
- The U.S. Army Physical Fitness School is the specified proponent for Physical Fitness (AR 5-

# Establishing Conditions for Success

- Standardize PT in IET.
- Demonstrate injury reduction.
- Align PT with FM 7-0 and FM 7-1.
- Develop institutional training.
- Overhaul APFT.

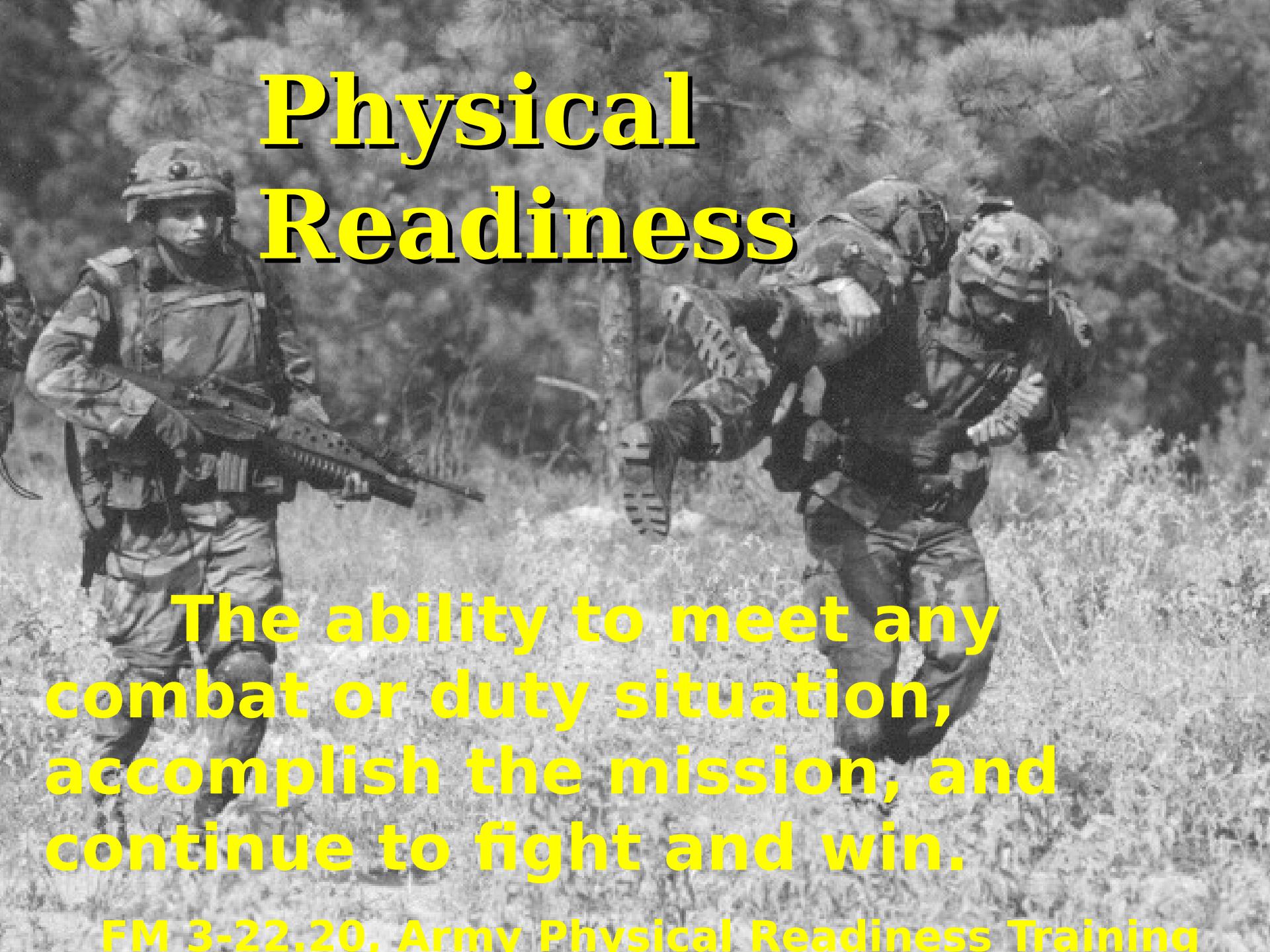
# Future PT Development

## Criteria

- Parallel Transformation with Objective Force Soldier.
- Transition from PT to Physical Readiness Training (PRT).
- Align PRT Doctrine with Army Training Doctrine.
- Standardize PRT across the Army.
- Enhance soldier critical task performance through PRT.
- Control injuries by building a foundation for long-term physical career success.

# Align PRT With Training Doctrine Principles Of Training

- Commanders are Responsible for Training.
- NCOs Train Individuals, Crews and Small Teams.
- Train as a Combined Arms and Joint Team.
- Train for Combat Proficiency.
  - Realistic Conditions
  - Performance-Oriented
- Train to Standard Using Appropriate Doctrine.
- Train to Adapt.
- Train to Maintain and Sustain.



# Physical Readiness

The ability to meet any combat or duty situation, accomplish the mission, and continue to fight and win.

# **Improve Soldier Physical Performance**

## **STP 21-1-SMCT**

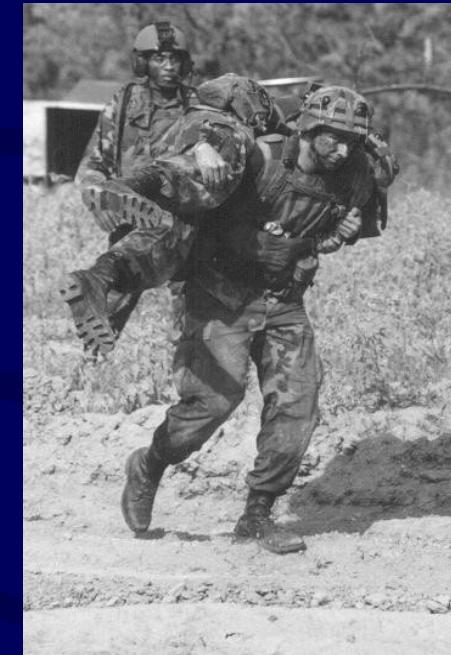
- **Move Under Direct Fire**

**(071-326-0502)**

- **Transport a Casualty Using a One-man Carry**

**(081-831-1040)**

- **Move Over, Through or Around Obstacles**



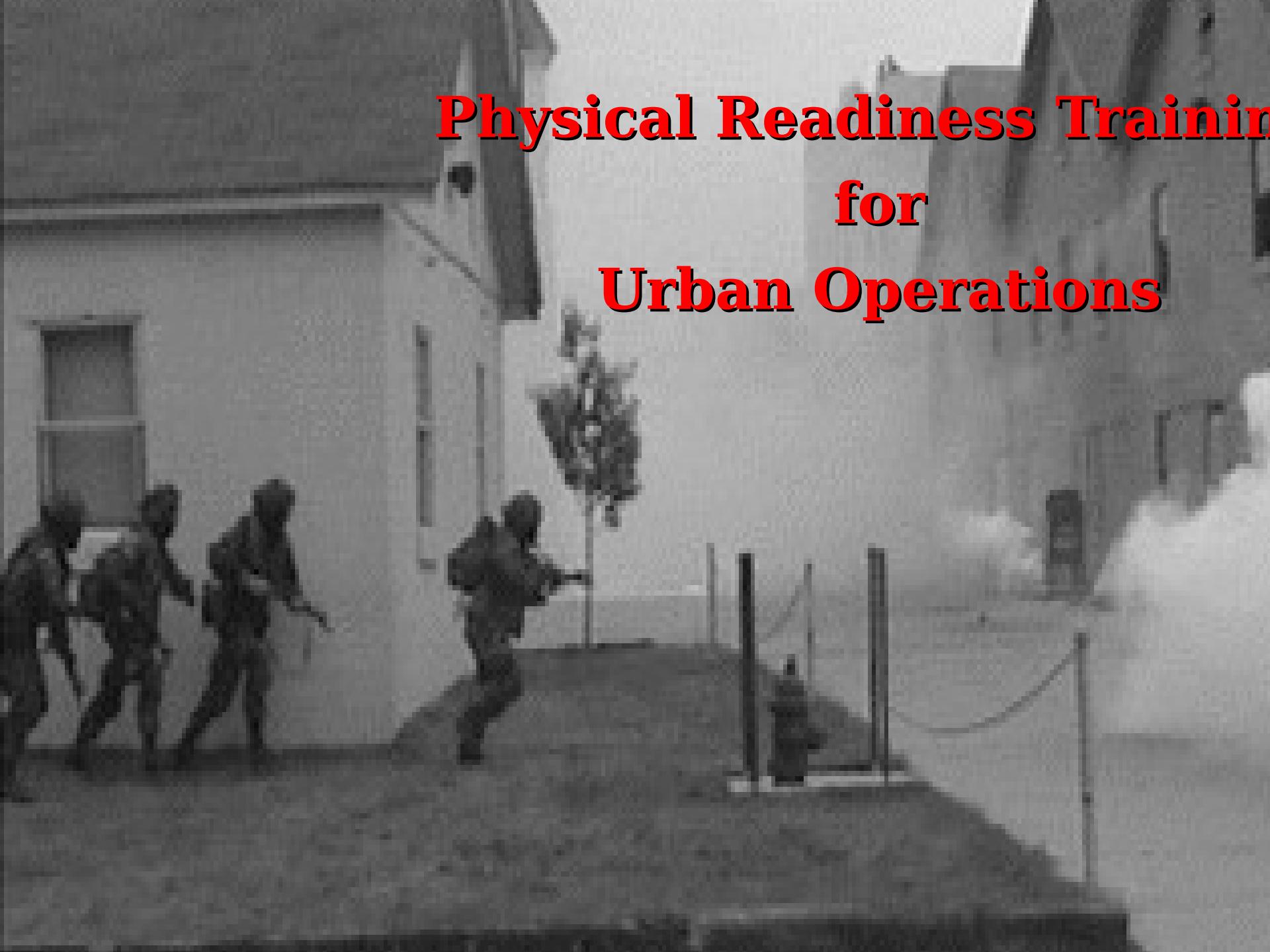
# Common Tasks

## STP 21-1-SMCT, 01 Oct 01

“This manual contains the common tasks that are essential to the Army’s ability to win on the modern battlefield. In the event of war, **regardless of job or individual MOS**, each soldier risks exposure to hostile actions. This manual contains the common tasks, which will help soldiers **fight, survive, and win in combat.**”

# Physically Demanding Common Tasks

- Move Under Direct Fire.
- Transport a Casualty.
- Move Over, Through, or Around Obstacles.
- Construct Individual Fighting Positions.
- Navigate From One Point On The Ground to Another While Dismounted.



# **Physical Readiness Training**

**for**

# **Urban Operations**

# Urban Combat Skills

## FM 3-06.11

- Chapter 3 of this manual contains the specified tasks that are essential for small units to fight and win in urban operations.
- Urban battle space is the critical factor in designing the PRT program.
- A thorough analysis of UO tasks was conducted to develop a PRT program that will better prepare the soldier to operate in the close combat environment required in both offensive and defensive UO.

# Urban Operations Task Matrix

# What is Functional Training?

*A Continuum of Function*

Training activities that detract from the performance of goal activities.

Faulty motor patterns.

Lack of strength or strength that cannot be expressed.

Lack of activity-specific endurance.

Lack of mobility for the activity.

Training activities that enhance the performance of goal activities.

Effective motor patterns.

Strength that meets the demands of the activity.

Optimal activity-specific endurance.

Optimal mobility for the activity.

# Key Concepts of Functional Training

- Train movements not muscles.
- Train in 3-Dimensions.
- Teach fundamental movement skills before task-specific skills.
- Create a rich proprioceptive environment.

# Train Movements not Muscles

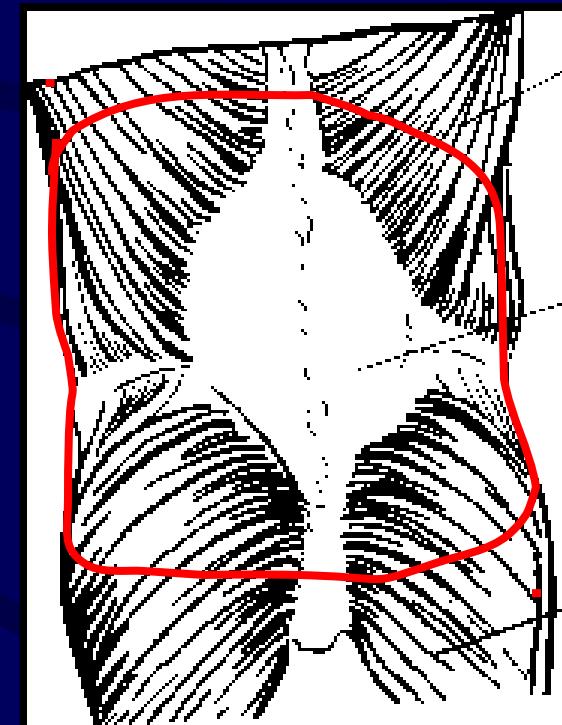
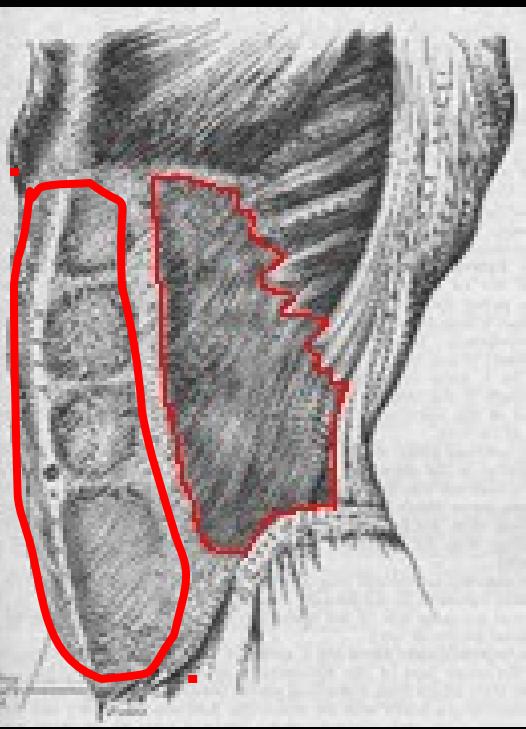
- PT should improve motor skills and body management competency.
- PT should enhance individual movement efficiency and the manipulative skills required to functionally employ strength, endurance and mobility.

Performance-oriented training requires functional movements... the ability to stop, start, get up, get down, change direction, squat, lunge, reach, twist, push, pull, jump and land.



# Train in 3-Dimensions

- Power projection platform
- Strength emanates from the core



Training in 3-D enhances individual movement efficiency and the manipulative skills required to functionally employ strength, endurance and mobility.



# Functional mobility is needed to perform critical soldier tasks.



# Create a Rich Proprioceptive Environment

- Awareness of component actions that must be blended smoothly into a complex act.
- Train in a controlled environment to perform without injury in an uncontrolled environment



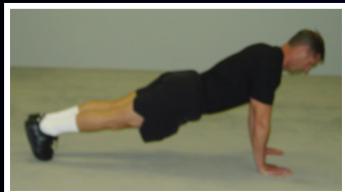
# Construct Obstacles That Support SMCT

Task # 071-326-0503: Move over, through or around obstacles.



# Obstacle Course and Training Standardization

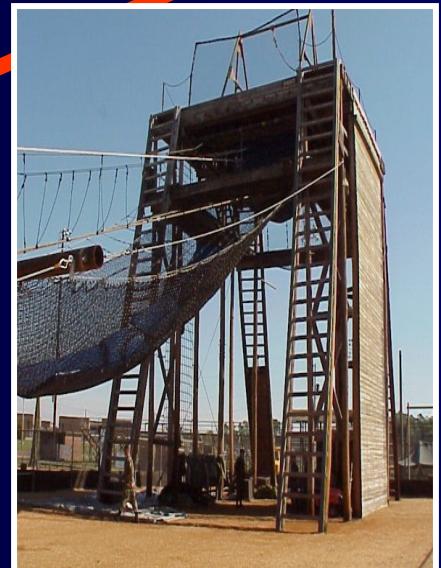
Physical  
Training  
Standardizatio  
n



Conditioning  
Obstacle  
Courses



Confidence  
Tower



Physical  
Fitness

(Motor)

Negotiation  
Skills

(Motor &  
Cognitive)

Confidence  
Building

(Affective  
)

Recommendations to Improve  
Physical Fitness and Reduce the  
Incidence and Severity of Exercise  
Related Complications in Reserve  
Component PT Programs

For  
General Ellis

13 November 02

The requirements to meet the minimum standards on the current APFT are achievable by those in uniform, provided soldiers have no underlying chronic disease and that they train on a regular basis.

# Discussion

The requirements to meet the minimum standards on the current APFT are achievable by those in uniform, provided soldiers have no underlying chronic disease and that they train on a regular basis.

1. *60 point values are set at the 8<sup>th</sup> percentile.*
2. *For males VO<sub>2</sub>max requirements of 60 point values range from 44ml/kg/min (17-21) to 31ml/kg/min (62+ male).*
3. *For females VO<sub>2</sub>max requirements of 60 point values range from 35ml/kg/min (17-21) to 27 ml/kg/min (62+ female).*
4. *60 point values equate to adjectival rating of FAIR (Cooper).*

# Cooper Institute for Aerobic Research

## Males VO<sub>2</sub> max (ml/kg/min)

	Age 20-29	Age 30-39	Age 40-49	Age 50-59
<b>SUPERIOR</b>	<b>53.97- 58.79</b>	<b>52.53- 58.86</b>	<b>50.36- 55.42</b>	<b>47.11- 52.53</b>
<b>EXCELLENT</b>	<b>48.20- 51.35</b>	<b>46.75- 50.36</b>	<b>44.11- 48.20</b>	<b>40.98- 45.13</b>
<b>GOOD</b>	<b>44.23- 46.99</b>	<b>42.24- 45.31</b>	<b>39.89- 43.89</b>	<b>36.65- 39.53</b>
<b>FAIR</b>	<b>40.98- 43.87</b>	<b>38.86- 41.58</b>	<b>36.65- 39.53</b>	<b>33.76- 36.10</b>
<b>POOR</b>	<b>37.13- 40.26</b>	<b>35.35- 38.09</b>	<b>33.04- 35.56</b>	<b>30.15- 32.48</b>
<b>VERY POOR</b>	<b>27.09- 36.65</b>	<b>26.54- 34.00</b>	<b>24.15- 32.31</b>	<b>22.06- 29.43</b>

# Cooper Institute for Aerobic Research

## Females VO<sub>2</sub> max (ml/kg/min)

	Age 20-29	Age 30-39	Age 40-49	Age 50-59
<b>SUPERIOR</b>	<b>46.75- 53.03</b>	<b>43.87- 48.73</b>	<b>40.98- 46.75</b>	<b>36.81- 42.04</b>
<b>EXCELLENT</b>	<b>40.98- 44.15</b>	<b>38.57- 40.98</b>	<b>36.28- 39.53</b>	<b>32.31- 35.20</b>
<b>GOOD</b>	<b>36.65- 39.53</b>	<b>34.60- 37.37</b>	<b>32.31- 35.11</b>	<b>29.43- 31.90</b>
<b>FAIR</b>	<b>33.76- 36.14</b>	<b>32.31- 33.85</b>	<b>29.45- 31.59</b>	<b>26.85- 28.70</b>
<b>POOR</b>	<b>30.63- 32.72</b>	<b>28.70- 31.09</b>	<b>26.54- 29.43</b>	<b>24.25- 26.13</b>
<b>VERY POOR</b>	<b>22.57- 29.53</b>	<b>22.49- 27.98</b>	<b>20.76- 25.57</b>	<b>18.74- 23.65</b>

# Discussion

The requirements to meet the minimum standards on the current APFT are achievable by those in uniform, provided soldiers have no underlying chronic disease and that they train on a regular basis.

*“The benefits of increasing physical activity within the population are potentially enormous due to both the high prevalence of sedentary lifestyle and the impact increased physical activity has on disease risk.”*

*Hahn RA, Teutsch SM, Rothenberg RB,  
Excess death from nine chronic diseases in  
the U.S.*

# CAD Risk

## Factors

1. Age (>45 male) (>55 female)
2. Blood pressure >140/90
3. Cholesterol >200
4. Smoking
5. Diabetes
6. Family history
7. Sedentary

# Discussion

The requirements to meet the minimum standards on the current APFT are achievable by those in uniform, provided soldiers have no underlying chronic disease and **that they train on a regular basis.**

*“The response relationship between physical activity and health benefits clearly supports moderate amounts and intensities of daily physical activity that are approximately 3 to 6 METs.”*

*Centers for Disease Control and Prevention and the American College of Sports Medicine*

# Discussion

The requirements to meet the minimum standards on the current APFT are achievable by those in uniform, provided soldiers have no underlying chronic disease and **that they train on a regular basis.**

*“The response relationship between physical training and APFT performance success requires physical activity of moderate to vigorous intensities (60 to 85%  $VO_2$  max or approximately 6 to 9 METs) 3 to 5 times per week.”*

# Discussion

The requirements to meet the minimum standards on the current APFT are achievable by those in uniform, provided soldiers have no underlying chronic disease and **that they train on a regular basis.**

*“Victims of exercise related SCD often have a history of poor compliance to the prescribed training heart rate range. These and other recent data suggest that unconventionally vigorous exercise is associated with an increased risk of musculoskeletal and cardiovascular complications.”*

*Kilbom A., Physical training in sedentary middle-aged and older men.*

*Friedwald V.E., Sudden cardiac death associated with exercise: The risk benefit issue.*

# Summary

1. Is the APFT too difficult of a test?
2. Are there unknown health conditions?
3. Are soldiers regularly participating in an individual fitness program?

# Common Tasks and the Physical Components Required

	<b>Muscular Strength</b>	<b>Muscular Endurance</b>	<b>Aerobic Endurance</b>	<b>Anaerobic Endurance</b>	<b>Mobility</b>
<b>Foot March</b>	X	XXX	XXX	X	X
<b>Climbing</b>	XXX	XX	X	XXX	XXX
<b>Crawling</b>	XX	XX	XX	XX	XXX
<b>Repeated Rush to Cover</b>	XX	XX	X	XXX	XXX
<b>Casualty Carry</b>	XXX	XX	X	XXX	XXX
<b>Digging</b>	XX	XXX	XX	XX	XX
<b>Total</b>	<b>13</b>	<b>14</b>	<b>10</b>	<b>14</b>	<b>15</b>

# Potential Studies

- Anaerobic Capacity
  - Task analysis shows many critical soldier tasks demand a relatively high intensity for a short duration.
  - Many of the new PRT activities are designed to meet this demand.
- Aerobic Capacity
  - Concern exists that the new PRT may decrease aerobic capacity due to a decrease in running mileage.
  - Though running mileage will be decreased for many units, the intensity of running will be increased.
  - Increased intensity of runs, together with the conditioning effect of drills such as calisthenics will increase or at least maintain aerobic capacity.

# Potential Studies

- Agility, coordination
  - Regular, precise performance of calisthenic and guerrilla drills and the 300-yard shuttle run may improve agility and coordination.
- Balance, stability
  - Regular, precise performance of calisthenic, resistance training, climbing, and recovery drills may improve core strength, balance and stability.
- Flexibility
  - Regular, precise performance of calisthenic and recovery drills may improve flexibility.

# Potential Studies

- Body Mechanics - ability to control body movement (dynamic posture).
  - Strength training activities improve the biomechanics of lifting and body management competency.
  - Running/movement drills improve running form.
- Posture - any position in which the body resides, relationship of body segments to one another.
  - Regular, precise performance of calisthenic, guerrilla, dumbbell, and climbing drills improve postural alignment.

# Potential Studies

- Injuries
  - The lower incidence of lower extremity overuse injuries in the Victory Fitness study is likely due to a 50% decrease in running mileage. A similar decrease in running mileage in operational units may also lower overuse injury rates.
  - The new PRT will likely offer units a greater variety of movements. This cross-training effect may also contribute to a reduction in overuse injuries.
  - The precise execution of fundamental movements (squats, overhead lifts, jumping/landing, etc.) in the new PRT may develop motor programs that optimize the performance of duty related tasks. This may decrease acute and overuse injuries.

# Potential Studies

- Body Composition
  - There is a widely held belief that the current level of distance running in the Army is needed for body weight management.
  - But, distance running is associated with increased lower extremity injury rates, so the new PRT decreases distance runs.
  - Strength training activities in the new PRT may be expected to increase lean mass .
  - Potential increase in lean mass may increase resting metabolism. This effect, combined with the endurance activities from the new PRT, may decrease body fat.

# Researc

h  
The object of research is to determine how things are as compared to how they might be

Basic  
Research



Applied  
Research



## Basic Research

- Deals with theoretical problems
- Lab setting, controlled conditions
- Results have limited direct application

## Applied Research

- Addresses immediate problems
- Real-world setting with limited control
- Results have direct value to practitioners